

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. An inlet valve controlling the introduction of fluid into a vessel, said vessel forming a reservoir for the fluid and having an inlet admitting replacement fluid from a fluid supply into the vessel to replace fluid discharged from the vessel by flow of fluid from the supply inlet of the vessel through the inlet valve, said inlet valve comprising a valve body member and a movable valve element that is movable with respect to the valve body member between a first position corresponding to a closed condition preventing flow of fluid through the inlet valve and a second position corresponding to an open condition allowing a flow of fluid through the inlet valve to replenish or replace the supply of fluid within the vessel after discharge of fluid from the vessel characterised in that there is a clearance portion associated with the valve body member or the movable element, said clearance portion being arranged such that when the movable element is in closed position within the inlet valve there is a space or gap between the movable element and valve body member allowing flow of gas into and/or through the valve between the movable element and the valve body member so as to provide a facility of or for a gas gap in the valve wherein the gas gap prevents unwanted flow of liquid from the vessel into the supply of fluid when the inlet valve is in the closed position.
2. An inlet valve according to any preceding claim characterised in that the vessel is a cistern of a toilet.
3. An inlet valve according to any preceding claim characterised in that an adjustable support member

- 24 -

for adjusting the mounting of the valve within the cistern.

4. An inlet valve according to any preceding claim
5 characterised in that the movable valve element is a substantially elongate member.
5. An inlet valve according to any preceding claim
10 characterised in that the elongate member is a plunger, cylindrical rod, bar, shaft or similar.
6. An inlet valve according to any preceding claim
15 characterised in that the movable valve member has a sealing end, such as for example being curved, rounded, tapered, beveled or the like.
7. An inlet valve according to any preceding claim in
20 which the sealing end of the movable valve member sealingly engages with a complementary sealing means provided on or associated with the valve member to close the valve to prevent incoming water from flowing into the valve.
8. An inlet valve according to any preceding claim
25 characterised in that the valve further comprises an operating mechanism including one or more levers pivotally connected together and connected to the movable valve member such that movement of one or more of the levers moves the movable valve member.
9. An inlet valve according to any preceding claim
30 characterised in that the clearance portion is a space, gap, looseness of fit, clearance, cut-out, rebate, groove, indent or similar located at one or
35 more points or regions along the length of the movable valve element allowing air to flow past

- 25 -

and/or through the clearance to reduce siphoning of water from the cistern.

10. An inlet valve according to any preceding claim
5 characterised in that the clearance portion is located at or towards the central portion or region of the movable valve member or at or towards one end of the movable valve member.
- 10 11. An inlet valve according to any preceding claim characterised in that the movable valve member is provided with a reduced size or diameter portion such as for example a neck portion or waist portion allowing air to flow between the movable valve member
15 and the valve body.
12. An inlet valve according to any preceding claim characterised in that the clearance is located on or around the outside surface of the plunger.
20
13. An inlet valve according to any preceding claim characterised in that the clearance portion is continuous or is segmented having portions defining gaps or spaces therebetween.
25
14. An inlet valve according to any preceding claim characterised in that a plunger is associated with a plunger guide housing or shroud.
- 30 15. An inlet valve according to any preceding claim characterised in that the plunger guide housing or shroud is provided with a channel, groove, reduced bore portion, rebate, aperture or the like for providing clearance between the plunger.
35

- 26 -

16. An inlet valve according to any preceding claim characterised in that the inlet valve is adjustably locatable within the cistern.
- 5 17. An inlet valve according to any preceding claim characterised in that the inlet valve includes an element responsive to changes in the water level within the cistern.
- 10 18. An inlet valve according to any preceding claim characterised in that the element responsive to changes in the water level is responsive to the effective buoyancy and/or gravity.
- 15 19. An inlet valve according to any preceding claim characterised in that the responsive element is a float which is pivotally connected to the valve arrangement.
- 20 20. An inlet valve according to any preceding claim characterised in that the float moves with a flip action or positive snap action to substantially instantaneously close the supply of incoming water.
- 25 21. An inlet valve according to any preceding claim characterised in that there is an air gap within the inlet valve to prevent siphoning of back flow of water within the cistern so as to reduce, eliminate or prevent contamination of the water supply.
- 30 22. An inlet valve substantially as hereinbefore described with reference to the accompanying drawings.